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AUTHOR	Hartline, Jessie C.
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ABSTRACT

Institutional organization and administration must be discussed in relation to change in higher education. Innovation, multimedia use of film, cable, and computers cannot be ends in themselves, but must be used by institutions to move with integrity toward educational objectives. A program for change involves the faculty, administration, students, and alumni. Offered as a case study is the Rutgers University College experience. Modeled in part after the British Open University, this nontraditional flexible approach to education seeks highly motivated, able students who because of responsibilities or inclination cannot, or prefer not, to attend regularly scheduled classes. Existing faculty of the traditional college were invited to join the program. Rather than depend on continued grants, nontraditional capital intensive multimedia programs must have on-going institutional funding. Thus, long-term budgeting and planning are necessary. A pay-as-you-go cable television system offers the advantage of two-way communications in addition to the low-cost production in cable programing. Short courses, current interest topics, and highly selective programs are very appropriate for cable subscribers. (WCM)

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Academic Change, Multi-Media Education and the Role of Cable

by Jessie C. Hartline

At a conference organized around the theme of Cable and the University, institutional organization and administration must be discussed in relation to change in higher education.

Academic administrators planning for the future and probably for change must ask the important question "Why?" It must be understood that goals must come before structure. This is so very important because we are moving in many ways toward the question of survival, not only of programs, but of institutions of higher education themselves. Innovation, multi-media use of film, cable, computers, cannot be ends in themselves, but must be used by institutions to move with integrity toward educational objectives.

Goals, identity, and mission in colleges and universities must first be established. The accrediting associations themselves are becoming less involved in toting up items such as faculty credentials, degrees granted, or library volumes and are more and more seeking to determine whether the institution is effectively meeting the goals it has established for itself. Colleges and universities should first establish their own missions and ask why they are as they are, or want to be. We are past the point in higher education when we can say that we can be all things to all people. There has been work done in this area to help instituitons with identity

problems, such as the work prepared and published by the staff of Educational Testing Service, and increasingly institutions of higher learning are using questionnaires and other institutional research methods to establish goals and priorities.

A PROGRAM FOR CHANGE

What might a program for change involve? It first has to involve the faculty, administration, students, and alumni. I offer as a case study, the Rutgers University College experience over the past several years.

Part of the charge to Rutgers University College is to offer high quality, part-time, adult liberal arts degree programs. New Jersey is the most densely populated state in the U.S. and has historically exported approximately 100,000 students each year. University College, which has five centers in major cities of the state, saw an opportunity not only to serve more students with our offerings in non-traditional ways, but to do so with the high quality faculty and academic resources we felt we had.

We had the prospect of planning ahead for the utilization of a statewide public television network as well as computer network. In addition, we had a small closed-circuit television network that linked buildings on our New Brunswick campus.

When we found a distinct lack of software, or courseware, ourselves to take maximum advantage of the facilities. We found what all of you already know – that course preparation and multi-media production are extraordinarily expensive. Having investigated the situation, we intended to use television for its video characteristics, audio presentations for their flexibility in delivering lectures or panels, and face-to-face meetings for interaction of students and faculty.

The plan was grand but entirely too expensive for us to begin *de novo*. It was a no-go situation without sufficient funding. We then tried to investigate all that already existed and saw that there were a lot of multi-media materials available, but ones that were fragmented and uneven in quality. Moreover, it was impossible to get information that faculty needed about the appropriateness and quality of materials. More information should be published about the media-developed courseware, and preferably in professional journals where faculty will see it. Along with that there should be critiques and evaluation of multi-media courseware established, since academics do not have the time, patience, or inclination to review and delve through the materials individually. This was a problem when we began and it is still a problem today.

During this planning time 3 years ago, our research and discussions brought us to the Open University of Great Britain. The criteria we had set for ourselves apparently had been met. The programs developed had met the standards of boards of outside examiners of scholars from institutions

such as Oxford, Edinborough, and Cambridge, and when we brought the books, films, and tapes to the campus, we were strongly encouraged by the reviews of the programs.

There really is not much new in the elements of the Open University. The disciplines themselves are traditional. The interdisciplinary nature of the materials has been accomplished very successfully. The packaging is really what is of greatest interest. They have put together print, television, radio, and student-faculty interaction in study centers throughout the country. Independent work on the student's part is a prime ingredient in the Open University. In the United States, study programs have always been available to the highly motivated, the honors student, upper division and graduate student. These students have accepted independent study very easily. Because of the flexibility of study times that the courses offered, it was felt that motivated adults could take advantage of this aspect of the educational process very well.

I must add that these materials are not only highly respected academically but are very demanding. In Great Britain, it is estimated that 10 to 12 hours of home study are required each week. Our students are averaging from 13 to 20 hours for a week's assignment. Once can see that the courseware was not intended for any other than the highly motivated, able student who because of responsibilities or inclination cannot, or prefers not to, attend regularly scheduled classes.

My own feeling is that those involved in non-traditional education should develop programs that are of *at least* as high quality academically as traditional offerings. Lady Jenny Lee, who has been a staunch promoter of the British Open University, summed it up at the ceremony dedicating the Open University library to her in Bletchley, London last April, saying in part that the Open University is well considered the university of the second chance but it can't be a university that is second rate, for then the people whom it was designed to serve, will have been cheated twice. With the highly mobile population and the frequent transferring of students to different institutions, acceptability and common currency of credits all over the United States are of great importance to us.

A NATIONAL EXPERIMENT

For all of these reasons, the British Open University courses potentially fit the mission of our institution. We therefore went ahead in May, 1972 with a proposal and joined with the University of Houston and the University of Maryland as part of a national experiment. We had an outside evaluator for our first year. Since evaluation is vital for programs of educational change and innovation, we were able to get funding from Carnegie through the College Entrance Examination Board to have Educational Testing Service conduct an outside evaluation of this

experimental program.

Rutgers University College proceeded to offer three of the courses: humanities, mathematics, and science, each of which carries 15 credits. The evaluation report of the first year is scheduled to be released by ETS in late spring of 1974.

Four years ago, when we began, we formed an ad hoc committee on non-traditional study consisting of faculty and outside scholars to review courses for academic integrity. This committee came back with a generally favorable report on the three programs that were ultimately accepted. The report went through the usual channels of our institution, which has committees on courses of study and academic policies, and then finally through the faculty as a whole. We felt that this process was important not only for academic input but also to give the faculty a feeling of being part of the process for change. We also needed an academic evaluation. The same standards were used to determine academic credits for these courses as for any others. Each course was evaluated at 15 credits. (In Great Britain, 8 credits or units are needed for a degree, and we require 120 credits, so 120 divided by 8 gives a 15-credit equivalency.)

We met with representatives of other undergraduate colleges within Rutgers University and explained our program so that students would have the possibility of transferring their OU credits to the traditional programs if they chose. We hoped to take care of some of the students' problems before they arose. There was cooperation and interest on the part of the other undergraduate colleges and through the experimental year there were not only visiting scholars invited from the British Open University but also professors from other units of the University who came in to give talks and demonstrations for our students.

The review process for institutionalizing the experimental program is now going on. The second year has seen an additional course in the humanities added, and we trust additional courses may be added in the future. There is also a willingness in some departments to review materials developed by other institutions in the U.S.

An important issue concerning non-traditional education that has often been debated is whether a new institution must be formed to develop and implement non-traditional educational programs. With a newly formed institution faculty can be recruited specifically for the purpose and make a fresh start. Their enthusiasm can grow rapidly, unhampered by engrained governance procedures. And yet, there are disadvantages as well. After having been involved in the processes for four years, my feeling is that in order to have new kinds of education accepted generally, established traditional institutions should participate at some levels. It is going to take longer for new institutions to establish acceptance and credibility alone. We do not have a minister of culture in the United States who can support and fund millions of dollars for any one program

or institution as in the Open University of Great Britain. However, if the established, accredited colleges and universities who cooperate and/or put their stamp of approval on new programs and delivery systems, I think the leader institutions will have a chance to help the movement grow. There is room for all, and I would not discourage new institutions, but I would not insist that forming new institutions is the only way, or even the best way, to accomplish change or innovation. In the move toward non-traditional education, cooperation of established institutions seems to me to be vital because without it, such institutions can be very powerful enemies and it is the student who loses.

There are a great many social and demographic reasons why change may very well be inevitable: the increasing phenomenon of delayed college entrance and junior-year "stop-out," predicted birth rates, "less time-more options" predicted by the Carnegie and Newman reports and emphasis on non-traditional students such as housewwives, veterans, the aged, and the institutionalized, so that it has at long last become more acceptable to reach the educational needs of these people. Further, it would seem that there will be continued change in the attitudes of the students themselves that will make a difference. The television generation is now in college, and the *Sesame Street* and *The Electric Company* group are not likely to go away.

There are changes going on right now in K – 12 education. Students are doing reports using film, radio, slides, and skit presentattions in school systems not considered not to be experimental or even very progressive. These students may not feel so comfortable sitting in hard chairs in a classroom with a professor, chalk, and blackboard for four straight years after having this kind of freedom to learn for their first 13 years. These students may very well expect and demand changes.

As an aside, I am pleased that the Graduate School of Education at Rutgers has reviewed the Open University materials in mathematics and science and is awarding nine graduate credits for each of them towards a master's degree and teacher certification. Their feeling is that these courses are academically excellent as well as being interdisciplinary in nature. Moreover, they believe in the adage that we teach as we have been taught. The importance of teacher education should not be lost sight of in this whole movement which is going to require their help.

Recruiting faculty is much discussed. In our case, we did not recruit new faculty, but invited existing faculty of the traditional college program to join in. Because of the general awareness of the program among the faculty, several came forward and asked to be involved in it. The amount of work that is required to mount a program such as this is far more than mere money can buy. The sense of commitment must be there. Unfortunately, non-traditional education is too often taken on by faculty on an overload basis. This form of staffing should be avoided. But it is

evident that a student-oriented faculty is important to the success of the program.

Obviously, funding is of paramount importance. Non-traditional programs that depend on continued grants have no future, nor should they. Legitimate programs have ongoing institutional funding. Someone has said that funding on an FTE (full-time equivalency) basis must be done away with. I agree with this, but until that day, an acceptable substitute formula base must be developed. The FTE base reflected the amount of time a professor is in the classroom. In non-traditional programs, the professor may not spend any time in the usual classroom, but a great deal more time with students and more time developing courses. Some of the instruction that might be considered similar in nature to non-traditional programs are studio art, drama, athletics, and academic counseling and tutoring for the educationally disadvantaged. Funding arrangements for these kinds of activities can be explored and mechanisms developed. As cost-effectiveness is further researched and refined, it may be that multi-media education will become more attractive to administrators at all levels. Multi-media programs are generally characterized as capital intensive. Relatively high initial, or sunk or fixed costs can be borne as larger numbers of students are enrolled and marginal costs decrease. Thus, long-term budgeting and planning are necessary.

Having considered these many factors, goals and plans were set and the options of a delivery system explored. During the experimental phase, films and audio tapes were available to students in study centers.

In the British Open University program, print is the most important medium used. Approximately 80% of the information and instruction is transmitted to students through workbooks, texts, and outside reading materials. Each week, the BBC airs one-half hour radio programs that may be a lecture, discussion group, or lesson review taking maximum advantage of the flexibility of radio. The audio-visual portion is a one-half hour broadcast on public television, BBC 2, taking the viewer inside a nuclear reactor, to a scene from *Hamlet* by the Old Vic, or looking at math functions as applied to marine design.

Having been involved with public television myself, I first explored what arrangements might be made for the use of public telecasts in our area. Public television people were very cooperative in discussing availability of broadcast time. However, thinking through the ramifications of presenting the programs to a potentially vast audience, it did not seem certain that printed supporting materials would be available in sufficient numbers. We knew also that many people might want supporting materials even though not enrolled as students. In addition, it was possible that the potential number of students might be so large that I would not be able to guarantee the professorial staffing or sufficient study centers. Moreover, though produced by the BBC, the films are primarily in black and white

which presented a problem. Unfortunately, the visual quality of the 16mm films available is uneven due to the fact that they are dubbed from 2-inch video tape, and the resolution is not what many are generally accustomed to on public broadcast. Under the circumstances and constraints with which we were operating, we were not yet ready for public broadcasting. It should be added that there was the additional problem of communicating the radio portions to the same audience receiving the telecasts.

A GOOD MARKET FOR CABLE

However, the situation with regard to the use of cable is more promising, especially as we thought more about our student market. The materials are for the highly motivated student. There are no entrance requirements for the program, but we do require that each student enrolling have an interview with a faculty member so that he fully understands what the program is about and what will be expected of him. The University College faculty has set a policy that any student successfully completing a course in the program is automatically admitted to the regular part-time degree program if he chooses to continue in the College.

As we realized more precisely the nature and appeal of our program, the use of cable gave the opportunity to know exactly who the audience was through the subscriber list. To illustrate this, we have had discussions with one of the small cable firms in New Jersey which was very cooperative. The socioeconomic characteristics of the subscribers in the area indicated that they would be an interesting potential student market for the courses we were offering. We and the cable firm did a cooperative market survey of the approximately 1,800 subscribers. A letter was sent out with a postcard to be returned by the subscriber who either (1) was interested in viewing the programs without becoming a student or (2) wanted to take the courses for credit and was willing and able to pay for the tuition and books (approximately $360). There was a 2% return of subscribers who responded to category (2) and who requested to arrange an interview and enroll. Two percent of the audience was too small in relation to the necessary expenses for royalties and the like, but such a percentage of a larger base is not too small and could be economically feasible as subscriptions grow.

The possibility of pay cable for funding educational programs offers real opportunities for the future. With the inadequate financial aid available, a pay-as-you-go system may be workable and advantageous.

Another advantage is two-way communications. At this time we are talking about students reacting to materials by postcard and telephone after seeing the television programs but there is the future possibility of

technology developed through the "black box."

There is also the advantage of the use of low-cost production in cable programming. This is an important and legitimate aspect for the future of multi-media education via cable. There are short courses, current interest topics, and highly selective programs that would not be economically feasible to produce for wide-audience public broadcast but would be very appropriate for cable subscribers.

Video broadcast into homes or institutions is not just delivering education differently to the same kinds of clients as in the past but is reaching a new student body. We have lost students who were unable to come to the study centers regularly for various reasons such as transportation problems, physical handicaps, work, or personal responsibilities who would have been better served if they had been reached in or near their homes. At present, with cable, programs could be rebroadcast more than once a week and also could transmit the audio portions of the courses as well.

We feel that it's important to provide a study center as part of the facilities so that students can have consultations with professors, student interaction can take place, and students can review films or tapes according to their needs.

A NEED FOR MISSIONARIES

To sum up, all the developments that have and are taking place must be viewed as increased options for students and potential students that we have not been serving at all or have not been serving as well as we might. Education should take many forms. The form it takes depends on the "know thyself" principle. Each institution can think through its individual mission. Leaders in the administration, faculty, students, and alumni can explore their options and come together to bring quality and options to the students they feel most able to serve and do it enthusiastically.

The public at large does not really understand non-traditional education. We educators, traditional and non-traditional alike, who spend so much time talking to each other are going to have to talk to the public and let them know what is available, and make available what they need and want. There's a great deal of missionary work to be done.

And finally, to come full circle, we are going to have to ask ourselves "Why?" at every turn. Why change? Why non-traditional? Why audio-visual? Why cable? Why classroom? Hard-headed answers to these questions will give us the who, what, when, and where of the future.